Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1 – 15 (Cancelled)

Claim 16. (Original): A method of measuring temperature in a furnace comprising:

positioning a pyrometer having an optical head in a port of the furnace, with a line of sight intersecting a passage of gas in the furnace containing a plurality of gas components;

receiving infrared radiation from the gas as it passes the line of sight;

converting the infrared radiation in the optical head to electrical signals; and

scaling the optical signals to maximize signals generated by infrared radiation which is semi-transparent to the gas components.

Claim 17. (Original): A method according to claim 16 including scaling the electrical signals for infrared radiation in a wavelength range of about 1.3 to about 3.1 microns.

Claim 18. (Original): A method according to claim 17 including scaling the signals for infrared wavelengths of about 1.38 microns for sensing the temperature of H_2O as the gas component trade.

Claim 19. (Original): A method according to claim 16 including scaling the electrical signals for wavelengths between 1.8 and 3.1 for measuring the temperature of mixtures of H_2O, CO_2 or mixtures thereof.